

Appendix B

Recommendation for 260-1 NIST Handbook 133: Edit Appendix A. Tables 2-5, 2-6, 2-8, and 2-10

Table 2-5. Maximum Allowable Variations (MAVs) for Packages Labeled by Weight Do Not Use This Table for Meat and Poultry Products Subject to USDA Regulations – Use Table 2-9. For Polyethylene Sheeting and Film, see Table 2-10. Exceptions to the MAVs	
Labeled Quantity	Maximum Allowable Variations
Less than 36 g, 0.08 lb, or 1.28 oz	10 percent of labeled quantity
36 g or more to 54 g 0.08 lb or more to 0.12 lb 1.28 oz or more to 1.92 oz	3.6 g 0.008 lb 1/8 oz
More than 54 g to 81 g More than 0.12 lb to 0.18 lb More than 1.92 oz to 2.88 oz	5.4 g 0.012 lb 3/16 oz
More than 81 g to 117 g More than 0.18 lb to 0.26 lb More than 2.88 oz to 4.16 oz	7.2 g 0.016 lb 1/4 oz
More than 117 g to 154 g More than 0.26 lb to 0.34 lb More than 4.16 oz to 5.44 oz	9.0 g 0.020 lb 5/16 oz
More than 154 g to 208 g More than 0.34 lb to 0.46 lb More than 5.44 oz to 7.36 oz	10.8 g 0.024 lb 3/8 oz
More than 208 g to 263 g More than 0.46 lb to 0.58 lb More than 7.36 oz to 9.28 oz	12.7 g 0.028 lb 7/16 oz
More than 263 g to 317 g More than 0.58 lb to 0.70 lb More than 9.28 oz to 11.20 oz	14.5 g 0.032 lb ½ oz
More than 317 g to 381 g More than 0.70 lb to 0.84 lb More than 11.20 oz to 13.44 oz	16.3 g 0.036 lb 9/16 oz
More than 381 g to 426 g More than 0.84 lb to 0.94 lb More than 13.44 oz to 15.04 oz	18.1 g 0.040 lb 5/8 oz
More than 426 g to 489 g More than 0.94 lb to 1.08 lb More than 15.04 oz to 17.28 oz	19.9 g 0.044 lb 11/16 oz
More than 489 g to 571 g More than 1.08 lb to 1.26 lb	21.7 g 0.048 lb
More than 571 g to 635 g More than 1.26 lb to 1.40 lb	23.5 g 0.052 lb
More than 635 g to 698 g More than 1.40 lb to 1.54 lb	25.4 g 0.056 lb
More than 698 g to 771 g More than 1.54 lb to 1.70 lb	27.2 g 0.060 lb
More than 771 g to 852 g More than 1.7 lb to 1.88 lb	29.0 g 0.064 lb
More than 852 g to 970 g More than 1.88 lb to 2.14 lb	31.7 g 0.070 lb
More than 970 g to 1.12 kg More than 2.14 lb to 2.48 lb	35.3 g 0.078 lb
More than 1.12 kg to 1.25 kg More than 2.48 lb to 2.76 lb	39.0 g 0.086 lb

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Labeled Quantity	Maximum Allowable Variations
More than 1.25 kg to 1.45 kg More than 2.76 lb to 3.20 lb	42.6 g 0.094 lb
More than 1.45 kg to 1.76 kg More than 3.20 lb to 3.90 lb	49 g 0.11 lb
More than 1.76 kg to 2.13 kg More than 3.90 lb to 4.70 lb	54 g 0.12 lb
More than 2.13 kg to 2.63 kg More than 4.70 lb to 5.80 lb	63 g 0.14 lb
More than 2.63 kg to 3.08 kg More than 5.80 lb to 6.80 lb	68 g 0.15 lb
More than 3.08 kg to 3.58 kg More than 6.80 lb to 7.90 lb	77 g 0.17 lb
More than 3.58 kg to 4.26 kg More than 7.90 lb to 9.40 lb	86 g 0.19 lb
More than 4.26 kg to 5.30 kg More than 9.40 lb to 11.70 lb	99 g 0.22 lb
More than 5.30 kg to 6.48 kg More than 11.70 lb to 14.30 lb	113 g 0.25 lb
More than 6.48 kg to 8.02 kg More than 14.30 lb to 17.70 lb	127 g 0.28 lb
More than 8.02 kg to 10.52 kg More than 17.70 lb to 23.20 lb	140 g 0.31 lb
More than 10.52 kg to 14.33 kg More than 23.20 lb to 31.60 lb	167 g 0.37 lb
More than 14.33 kg to 19.23 kg More than 31.60 lb to 42.40 lb	199 g 0.44 lb
More than 19.23 kg to 24.67 kg More than 42.40 lb to 54.40 lb	226 g 0.50 lb
More than 24.67 kg More than 54.40 lb	2 percent of labeled quantity

Table 2-6. Maximum Allowable Variations for Packages Labeled by Liquid and Dry Volume Do Not Use This Table for Meat and Poultry Products Subject to USDA Regulations - Use Table 2-9. For Mulch, see Table 2-10. Exceptions to the Maximum Allowable Variations	
Labeled Quantity	Maximum Allowable Variations (MAVs)
3 mL or less 0.5 fl oz or less 0.18 in ³ or less	0.5 mL 0.02 fl oz 0.03 in ³
More than 3 mL to 8 mL More than 0.18 in ³ to 0.49 in ³	1.0 mL 0.06 in ³
More than 8 mL to 14 mL More than 0.49 in ³ to 0.92 in ³	1.5 mL 0.09 in ³
More than 14 mL to 22 mL More than 0.5 fl oz to 0.75 fl oz More than 0.92 in ³ to 1.35 in ³	1.7 mL 0.06 fl oz 0.10 in ³
More than 22 mL to 66 mL More than 0.75 fl oz to 2.25 fl oz More than 1.35 in ³ to 4.06 in ³	3.8 mL 0.13 fl oz 0.23 in ³
More than 66 mL to 125 mL More than 2.25 fl oz to 4.25 fl oz More than 4.06 in ³ to 7.66 in ³	5.6 mL 0.19 fl oz 0.34 in ³
More than 125 mL to 170 mL More than 4.25 fl oz to 5.75 fl oz More than 7.66 in ³ to 10.37 in ³	7.3 mL 0.25 fl oz 0.45 in ³
More than 170 mL to 221 mL More than 5.75 fl oz to 7.50 fl oz More than 10.37 in ³ to 13.53 in ³	9.1 mL 0.31 fl oz 0.55 in ³
More than 221 mL to 347 mL More than 7.50 fl oz to 11.75 fl oz More than 13.53 in ³ to 21.20 in ³	11.2 mL 0.38 fl oz 0.68 in ³
More than 347 mL to 502 mL More than 11.75 fl oz to 17 fl oz More than 21.20 in ³ to 30.67 in ³	14.7 mL 0.5 fl oz 0.90 in ³
More than 502 mL to 621 mL More than 17 fl oz to 21 fl oz More than 30.67 in ³ to 37.89 in ³	18.6 mL 0.63 fl oz 1.13 in ³
More than 621 mL to 798 mL More than 21 fl oz to 27 fl oz More than 37.89 in ³ to 48.72 in ³	22.1 mL 0.75 fl oz 1.35 in ³
More than 798 mL to 916 mL More than 27 fl oz to 31 fl oz More than 48.72 in ³ to 55.94 in ³	26.0 mL 0.88 fl oz 1.58 in ³
More than 916 mL to 1.15 L More than 31 fl oz to 39 fl oz More than 55.94 in ³ to 70.38 in ³	29 mL 1 fl oz 1.80 in ³
More than 1.15 L to 1.62 L More than 39 fl oz to 55 fl oz 70.38 in ³ or more to 99.25 in ³	36 mL 1.25 fl oz 2.25 in ³
More than 1.62 L to 2.04 L More than 55 fl oz to 69 fl oz More than 99.25 in ³ to 124.5 in ³	44 mL 1.5 fl oz 2.70 in ³
More than 2.04 L to 2.51 L More than 69 fl oz to 85 fl oz More than 124.5 in ³ to 153.3 in ³	51 mL 1.75 fl oz 3.1 in ³

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Labeled Quantity	Maximum Allowable Variations (MAVs)
More than 2.51 L to 3.04 L More than 85 fl oz to 103 fl oz More than 153.3 in ³ to 185.8 in ³ .	59 mL 2 fl oz 3.6 in ³
More than 3.04 L to 4.73 L More than 103 fl oz to 160 fl oz More than 185.8 in ³ to 288.7 in ³	73 mL 2.5 fl oz 4.5 in ³
More than 4.73 L to 5.48 L More than 160 fl oz to 185.6 fl oz More than 288.7 in ³ to 334.9 in ³ .	88 mL 3 fl oz 5.4 in ³
More than 5.48 L to 7.09 L More than 185.6 fl oz to 240 fl oz More than 334.9 in ³ to 443.1 in ³	103 mL 3.5 fl oz 6.3 in ³
More than 7.09 L to 8.04 L More than 240 fl oz to 272 fl oz More than 443.1 in ³ to 490.8 in ³ .	118 mL 4 fl oz 7.2 in ³
More than 8.04 L to 10.17 L More than 272 fl oz to 344 fl oz More than 490.8 in ³ to 620.8 in ³	133 mL 4.5 fl oz 8.1 in ³
More than 10.17 L to 11.59 L More than 344 fl oz to 392 fl oz More than 620.8 in ³ to 707.4 in ³	147 mL 5 fl oz 9.0 in ³
More than 11.59 L to 16.56 L More than 392 fl oz to 560 fl oz More than 707.4 in ³ to 1,010 in ³	177 mL 6 fl oz 10.8 in ³
More than 16.56 L to 18.92 L More than 560 fl oz to 640 fl oz (5 gal) More than 1,010 in ³ into 1,155 in ³	207 mL 7 fl oz 12.6 in ³
More than 18.92 L to 23.65 L More than 640 fl oz to 800 fl oz More than 1,155 in ³ to 1,443 in ³	236 mL 8 fl oz 14.4 in ³
More than 23.65 L to 26.73 L More than 800 fl oz to 904 fl oz More than 1,443 in ³ to 1 631 in ³	266 mL 9 fl oz 16.2 in ³
More than 26.73 L More than 904 fl oz More than 1 631 in ³	1 percent of labeled quantity

Table 2-8. Maximum Allowable Variations for Packages Labeled by Length, (Width), or Area For Textiles, Polyethylene Sheeting and Film, see Table 2-10. Exceptions to the MAVs	
Labeled Quantity	Maximum Allowable Variations (MAVs)
1 m or less 1 yd or less	3 % of labeled quantity
More than 1 m to 43 m More than 1 yd to 48 yd	1.5 % of labeled quantity
More than 43 m to 87 m More than 48 yd to 96 yd	2 % of labeled quantity
More than 87 m to 140 m More than 96 yd to 154 yd	2.5 % of labeled quantity
More than 140 m to 301 m More than 154 yd to 330 yd	3 % of labeled quantity
More than 301 m to 1,005 m More than 330 yd to 1,100 yd	4 % of labeled quantity
More than 1,005 m or 1,100 yd	5 % of labeled quantity
Maximum Allowable Variations for Packages Labeled by Area.	
The MAV for packages labeled by area is 3 percent of labeled quantity	
For Textiles, Polyethylene Sheeting and Film, see Table 2-10. Exceptions to the MAVs	

Table 2-10. Exceptions to the Maximum Allowable Variations for Textiles, Polyethylene Sheeting and Film, Mulch and Soil Labeled by Volume, Packaged Firewood, and Packages Labeled by Count with Less than 50 Items.	
Product	Maximum Allowable Variations (MAVs)
Polyethylene Sheeting and Film	<p>Thickness</p> <p>When the labeled thickness is 25 : m (1 mil or 0.001 in) or less, any individual thickness measurement of polyethylene film may be up to 35 percent below the labeled thickness.</p> <p>When the labeled thickness is greater than 25 : m (1 mil or 0.001 in), individual thickness measurements of polyethylene sheeting may be up to 20 percent less than the labeled thickness.</p> <p>The average thickness of a single package of polyethylene sheeting may be up to four percent less than the labeled thickness.</p> <p>Weight</p> <p>The MAV for individual packages of polyethylene sheeting and film shall be 4 percent of the labeled quantity.</p>
Textiles	<p>The MAVs are:</p> <p>For packages labeled with dimensions of 60 cm (24 in) or more:</p> <p>Three percent of the labeled quantity for negative errors and 6 percent of the labeled quantity for plus errors.</p> <p>For packages labeled with dimensions less than 60 cm (24 in):</p> <p>Six percent of the labeled quantity for negative errors and 12 percent for plus errors.</p>
Mulch and Soil Labeled by Volume	<p>The MAVs are:</p> <p>For individual packages: 5 percent of the labeled volume.</p> <p>For samples: one package may exceed the MAV for every 12 packages in the sample (e.g., when the sample size is 12 or less, 1 package may exceed the MAV and when the sample size is 48 packages, 4 packages may exceed the MAV).</p>
Packaged Firewood and Packages Labeled By Count with Less Than 50 Items	MAVs are not applied to these packages.